



Item 6.1: 2024 Summer Weather and Operations

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Board of Directors Meeting

ERCOT Public

June 18, 2024

Overview

- **Purpose**
 - Provide a Summer 2024 Weather, Resource Adequacy, and Transmission outlook
 - Provide an overview of Summer operational changes and preparations
- **Voting Items / Requests**

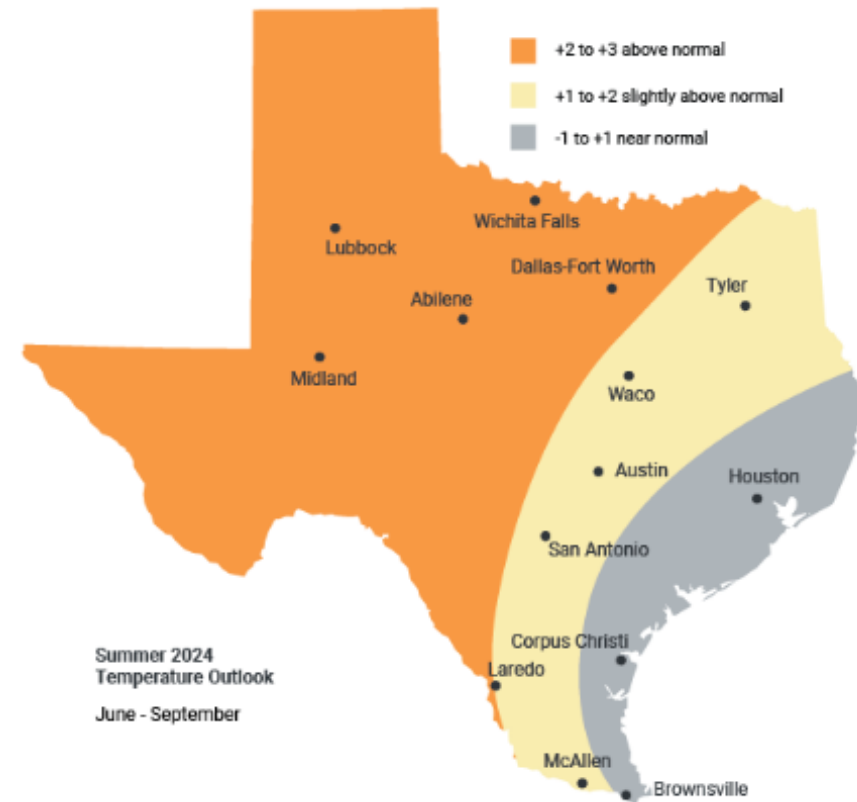
No action is requested of the Board; for discussion only

- **Key Takeaways**
 - Summer weather is forecasted to be, on average, above normal this summer
 - ERCOT should have sufficient resources to serve demand under normal summer conditions
 - Tighter conditions could occur around sunset than at normal 5PM peak demand time due to loss of solar generation while demand is still high and wind is low
 - Tighter conditions are possible with some combinations of low wind/solar and high thermal outages at times of high demand

2024 Summer Weather Outlook

- The forecast for this summer is mostly above normal temperatures across Texas – with some normal exceptions along and near the Gulf Coast
- 2023, 2022, 2019, 2018 all ranked in the top 10 hottest summers dating back to 1895. Good chance this summer also ranks top 10 (may take significant tropical impacts to prevent that)
- While the forecast is top 10 hottest, current expectations are that it won't be as hot as last summer (or 2011). However, that cannot be ruled out.
- 25% chance this summer approaches or exceeds 2023

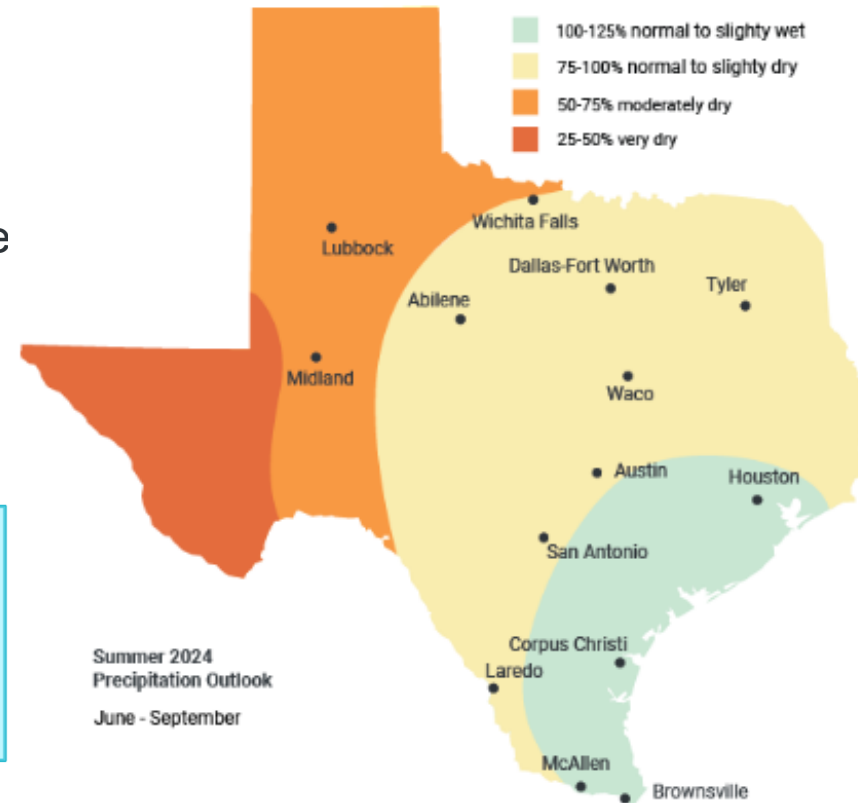
Key Takeaway: Expect another summer with extreme heat and frequent above normal temperatures. 25% chance summer 2024 approaches or tops 2023 levels.



2024 Summer Weather Outlook

- The El Niño from last summer through this past winter has faded. It will be replaced by a La Niña this summer. La Niña most times brings a drier trend to Texas – but that transition sometimes lags
- Most of Texas is forecasted to see normal to below normal rainfall this summer. Far West Texas has the best chance for below normal. The best chance for above normal rainfall will be along and inland from the Gulf Coast
- A very active hurricane season is projected for the Atlantic Basin. There are also stronger-than-average indications of an active Gulf of Mexico – with 4 to 6 (or more) named storms predicted. This does introduce a greater-than-average risk for a landfalling hurricane or tropical storm in Texas

Key Takeaway: This summer will have both increasing drought potential and a greater-than-typical tropical cyclone risk



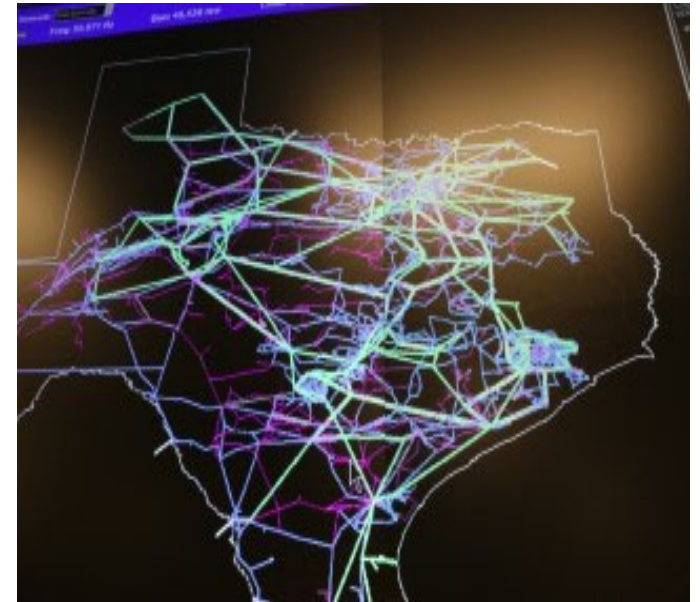
Summer 2024: Resource Adequacy Outlook

- Sufficient generation available in most hours
- Highest risk of an Energy Emergency Alert (EEA) event would occur as solar generation drops off at sunset (typically hour ending 9 p.m.)
- Assessment of resource adequacy for high demand days is dependent on output of wind and solar resources, as well as unplanned outages of thermal generation
- South Texas transmission constraint may not allow all generation to be used during very high system net loads, increasing risk of EEA

Key Takeaway: There is an elevated risk of EEA events during peak demand days in August. Wind production continues to be important for maintaining sufficient reserve capacity during the evening hours.

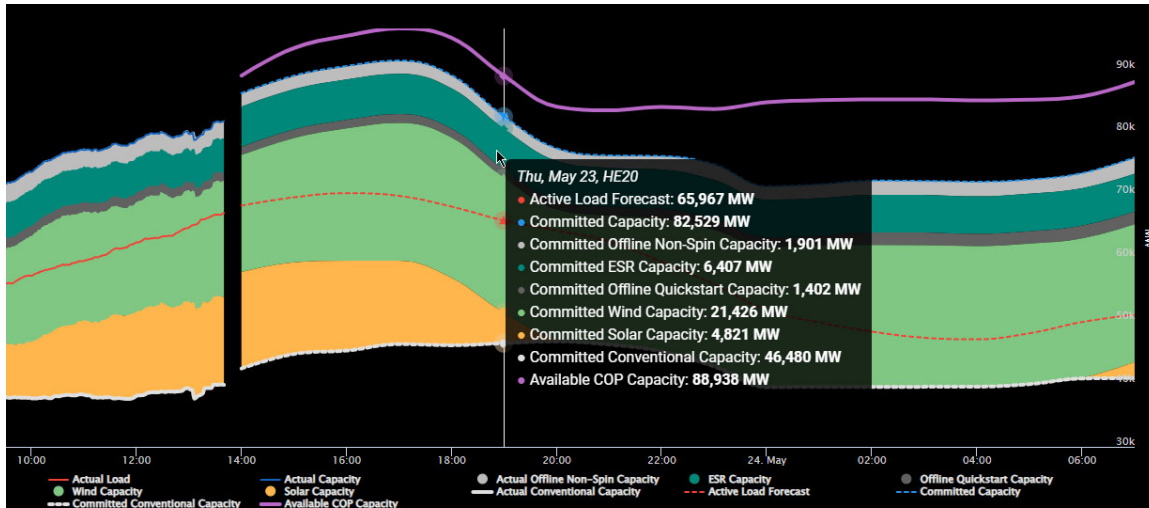
Summer 2024 Transmission Outlook

- No wide-area reliability concerns seen in studies, barring significant outages
- May experience congestion in some areas:
 - Export Constraints from Panhandle, West Texas and areas of the Rio Grande Valley during high wind conditions
 - Four new IROLs
 - 2 South Texas Export: High load and high South generation conditions
 - 2 South Texas Import: High load and low South generation conditions
 - Spring 2024 severe weather caused transmission outages
 - West Texas, DFW, Houston, Temple



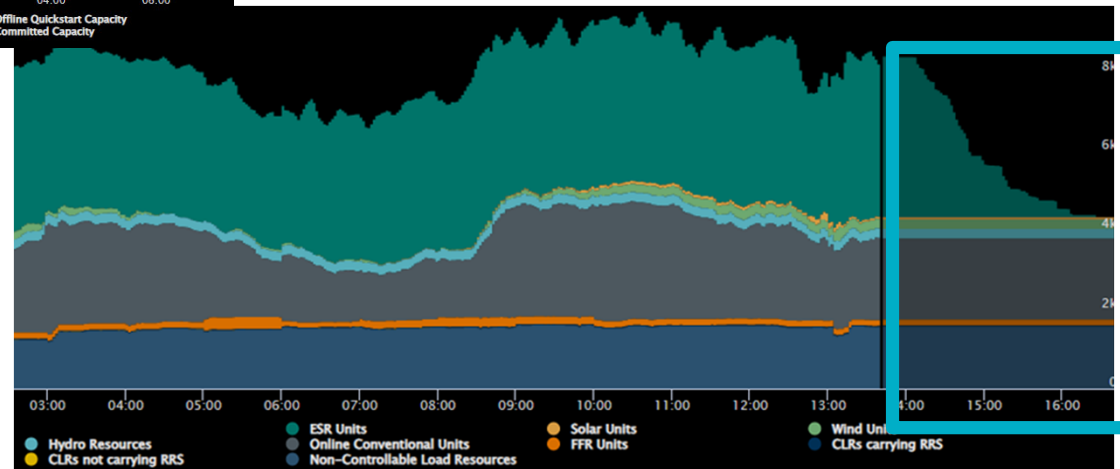
Key Takeaway: Widespread transmission reliability issues are unlikely for Summer 2024.

Improved tools related to state of charge



ESR capacity is now shown in a separate series for assessing length of time batteries may be called upon on tight days.

A tool has been developed to visualize the duration of operating reserves if batteries needed to be deployed at maximum discharge.



Key Takeaway: ERCOT has developed new displays to allow improved situational awareness related to battery state of charge.

Operational rule changes implemented

- Improved control of renewable resource output behind stability constraints (NPRR1111/SCR819)
- Improved management of state of charge for batteries providing ancillary services (NPRR1186)
- Automated accounting of charges for failure to provide ancillary services (NPRR1149/NPRR1196)
- Improved deployment of ERS (NPRR1090)
- Improved release of ECRS (NPRR1224 pending)
- Continued restrictions on extended transmission outages impacting generation availability

Key Takeaway: Operational changes should aid ERCOT's continued reliability-focused operating posture this summer